

1. (amended) A method for controlling data cell transmission in a network, the method being implemented at a network element through which data cells are transferred between source and destination nodes, the method comprising:

A12 receiving, in the network element, a first control cell on a first virtual channel, the first virtual channel being associated with a source node;

generating, in the network element, a management event upon receipt of the first control cell;

processing, in the network element, the management event to determine first resource management data;

receiving, in the network element, a second control cell on a second virtual channel, the second virtual channel being associated with a destination node;

modifying, in the network element, the second control cell using the first resource management data; and

transmitting, from the network element, the modified second control cell over the first virtual channel.

A13 10. (amended) A data transmission apparatus for transmitting data cells and control cells between a source virtual channel and a destination virtual channel, the source virtual channel operatively coupling the apparatus to a source node, the destination virtual channel operatively coupling the apparatus to a destination node, the transmission apparatus comprising:

source port circuitry operative to send and receive control cells on a source virtual channel;

destination port circuitry operative to send and receive control cells over a destination virtual channel;

switching circuitry operatively coupling the source port circuitry and the destination port circuitry, the switching circuitry comprising circuitry to exchange data cells and control cells between the source virtual channel and the destination virtual channel;

management event circuitry operatively coupled to the source port circuitry to receive control cells from the source virtual channel and to compute resource management data by processing the received control cells; and

return cell circuitry operatively coupled to the source and destination port circuitry and to the management event circuitry, the return cell circuitry comprising circuitry to receive control cells from the destination port circuitry, to modify control cells based on the resource management data computed by the management event circuitry, and to provide the modified control cells to the source port circuitry for transmission over source virtual channels.

16. (amended) An asynchronous data transfer mode cell control method, the method being implemented in a network switching element, the method comprising:

establishing, from the network switching element, a plurality of source virtual channels and destination virtual channels, each source virtual channel being paired with a destination virtual channel to form a cell transmission path operatively coupling a source node to a destination node through the switching element;

receiving, in the network switching element, a control cell on a first source virtual channel;